

southeastern New Mexico, heavy northern Utah; 7th, south-central New Mexico; 19th, south-central and south-eastern New Mexico; 26th and 27th, south-central and southeast Arizona; 28th, south-central Arizona, freezing temperature southeast Arizona.

The warnings were generally verified by the actual occurrence of frost or temperatures at which frost might be expected.—*J. M. Sherier.*

SAN FRANCISCO FORECAST DISTRICT.

November, 1923, was a comparatively quiet month from a weather standpoint on the Pacific coast. The storm movement, like that of the preceding month, was well to the north and the precipitation light and mostly confined to western Washington. The only important feature was the storm of the 28th–30th. This was a small depression which moved southward over the inter-mountain region to southern Nevada and thence south-westward, passing off the southern California coast in the vicinity of San Diego. It caused a strong northeast gale along the central California coast on the night of the 30th, which did considerable damage along the San Francisco waterfront and was without warnings.

No frost warnings were issued and no damaging frosts occurred.

Southeast storm warnings were ordered at Washington and Oregon stations and later extended southward to Mendocino on the California coast. No verifying velocities were reported at coast stations. The warnings are believed to have been justified as strong gales were reported by vessels a few hundred miles off the coast.

Southeast warnings were again ordered at Washington and Oregon stations on the 22d, and continued on the 23d, and verifying velocities occurred at most stations.—*G. H. Wilson.*

RIVERS AND FLOODS.

By H. C. FRANKENFIELD, Meteorologist.

No high waters occurred during the month. There were moderate local floods in the upper Trinity and lower Colorado Rivers of Texas, the former on the 5th and the latter between the 14th and 18th. Warnings for the rises were issued and no damage was done as there had been ample time to remove livestock from the lowlands. Flood stages were not quite reached, except in the Trinity River at Dallas, Tex., where the crest stage on November 18 was 1.5 feet above the flood stage of 25 feet.

Unusually low water prevailed in the Mississippi River north of Lake Pepin, and at St. Paul, Minn., on November 12 the stage was 1.3 feet below zero, or 0.3 foot lower than the previous low record of December 7, 1912. At Fort Ripley, Minn., the low-water record of 2.8 feet on October 20, 1918, was again reached on November 29.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
WEST GULF DRAINAGE.					
Trinity: Dallas, Tex.	Feet. 25	17	18	Feet. 26.5	18

MEAN LAKE LEVELS DURING NOVEMBER, 1923.

By UNITED STATES LAKE SURVEY.

[Detroit, Mich., December 6, 1923.]

The following data are reported in the "Notice to Mariners" of the above date:

Data.	Lakes. ¹			
	Superior.	Michigan and Huron.	Erie.	Ontario.
Mean level during November, 1923:				
Above mean sea level at New York.....	Feet. 602.03	Feet. 579.06	Feet. 571.02	Feet. 244.34
Above or below—				
Mean stage of October, 1923.....	—0.03	—0.32	—0.23	—0.31
Mean stage of November, 1922.....	—0.23	—0.52	—0.40	—0.81
Average stage for November, last 10 years.....	—0.55	—1.21	—0.91	—1.25
Highest recorded November stage.....	—1.48	—3.86	—2.65	—3.48
Lowest recorded November stage.....	+0.53	—0.12	+0.32	+0.93
Average relation of the November level to—				
October level.....		—0.20	—0.20	—0.20
December level.....		+0.20	+0.20	+0.20

¹ Lake St. Clair's level: In November, 573.90 feet.

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, NOVEMBER, 1923.

By J. B. KINCER, Meteorologist.

The generally mild, pleasant weather, with light to moderate rainfall in most sections of the country during November gave favorable weather for seasonal farming operations and for growing crops. At the beginning of the month killing frost had not occurred in the Middle Atlantic Coast States south of New York nor in the Gulf States, but by the 10th it had overspread practically the whole of South Carolina and Georgia and also the northern portions of Alabama and Mississippi. The next killing frost in the South occurred about the 30th and overspread Arkansas and the northern portions of the west Gulf States. At the close of the month the southern portions of the Central and west Gulf States had not experienced killing frost. Frost did some damage to tender vegetation in South Carolina, Alabama, northern Florida, and parts of California, while some minor crops were harmed in southern New Mexico at the close of the month, but in general no material damage resulted from cold weather.

Winter wheat did well in nearly all sections of the country and at the close of the month this crop was reported quite generally as in good condition to enter the winter. Seeding in the extreme southern Great Plains was further interrupted by too much rain during the early part of the month, but after the first week better conditions prevailed and much wheat was sown. Rainfall during the first half favorably affected winter wheat in the middle Atlantic area, while the increased moisture the latter part of the month in the east Gulf States, where drought had prevailed, was very beneficial to winter cereals.

Wet weather in the southern Plains during the first part of November was unfavorable for husking and cribbing corn, with considerable complaint in Oklahoma of grain molding and rotting in the fields. Husking made rather slow progress in Iowa also, due to the snow near the close of October and the high moisture content of the grain. During the week ending November 13, and thereafter, however, much better drying weather prevailed in both the Great Plains and upper Mississippi